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AUTHOR Edelman, Barbara
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ABSTRACT

The psychosomatic theory of obesity assumes that bingeing, eating in response to emotional distress, is characteristic of obese individuals, yet experimental attempts to demonstrate bingeing have yielded weak support for this assumption. The incidence of bingeing was investigated by means of structured interviews on food habits with 41 male and 39 female subjects who ranged in weight from thin to obese. Fifty-one percent of the females and 29 percent of the males reported bingeing at least twice a month. Reasons for bingeing included anxiety, tiredness, loneliness, long-term dieting, and frustration. No differences in the incidence of bingeing were found on the basis of body weight. Results suggest that lack of experimental support for the occurrence of bingeing may be due to the failure to take into account individual differences in the situations under which bingeing may occur and the assumption that the obese are qualitatively distinct from the non-obese in their reaction to emotional distress. Bingeing is an important category of eating behavior and should be more fully incorporated into studies of body weight regulation. (Author)

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BINGE EATING IN HUMANS

Barbara Edelman

Behavioral Sciences Division
Food Sciences Laboratory
U.S. Army Natick Research and Development Command
Natick, Ma 01760

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According to assumptions of the Psychosomatic theory, obesity is a symptom of underlying emotional conflict. Because of early, maladaptive experiences, obese individuals use overeating as a strategy to cope with emotional distress. Proponents have alternatively viewed overeating as a learned response used to reduce anxiety (Kaplan & Kaplan, 1957) or as the result of confusion between internal states. In the latter view, since the obese person has never learned to discriminate hunger from anxiety, anxiety is typically mislabelled as hunger (Bruch, 1973). These views lead to the same predictions when anxious or emotionally distressed the obese individual will increase intake.

Most of the evidence for the Psychosomatic theory rests on a relatively small number of in-depth clinical case studies (e.g. Stunkard, 1959; Mendelson, 1966; Bruch, 1973). These studies often describe eating patterns which correspond to what Stunkard (1959) called 'binging'. He used this term in a 1959 article to describe the eating behavior of some massively obese patients. These individuals alternated periods of 'normal' eating with periods of rapid and compulsive consumption of large quantities of food. These eating bouts or binges were almost always precipitated by an emotionally stressful experience. Although Stunkard estimated the incidence of binge eating to be less than 5%, Bruch perhaps the foremost spokesman of the Psychosomatic viewpoint, reported that almost all of her obese patients displayed binge eating at one time or another.

Experimental attempts to demonstrate 'binging' or indeed any emotional distress related eating have yielded at best weak support. Laboratory studies have generally relied on increasing anxiety by such methods as threat of painful electric shocks. Subsequent intake of overweight and normal weight subjects was then compared. The typical finding of this type of study was that threat of electric shock significantly decreased the intake of normal weights but had little effect on the intake of the obese. Although in several of these studies, the obese did show a slight increase in intake, this increase failed to reach significance. Consistent failure to find a significant increase in the intake of the obese has contributed to the abandonment of the Psychosomatic hypothesis as a useful explanation of obesity (e.g. Schacter, 1968). The popularity of alternative theories particularly Externality theory also contributed to the decreased interest.

The discrepancy between experimental and clinical results may be due to several factors. For one thing, the experimental setting with its necessarily narrow definition of 'anxiety' may not mimic the actual situations under which people 'binge.' For example, fear of electric shock may produce a totally different experience than anxiety or distress about failing an exam, having a poor social life or fighting with ones children. Differences in subject characteristics may also contribute to this lack of consistency. Subjects in clinical case studies are usually: female, middle-aged and moderately to severely obese. Subjects in experimental studies are usually young, mildly obese and in many cases, particularly the early studies, male. Perhaps eating for

emotional reasons is less common among mildly obese male college students than other segments of the population. Another factor contributing to the lack of experimental support may be the focus on 'binging' as an 'obese' behavior. There is increasing evidence that the obese/normal weight dichotomy is too simplistic since many normal weights stay that way through dietary restraint (Herman & Polivy, 1976). Because of these issues, a study of eating patterns of different subgroups might prove useful in understanding emotional distress related eating.

It is not suggested that the assumptions of the Psychosomatic theory can totally explain obesity. There is convincing evidence that the eating behavior of many overweight and dieting normal weights is influenced by environmental cues such as the time of day or sight of food (e.g. Schacter & Rodin, 1973). What seems likely, is that people may become and stay overweight for a variety of reasons including perhaps, binging.

This study is a preliminary attempt to investigate emotional distress related eating: its incidence in the general population, characteristics of bingers (age, sex, weight) and the situations under which this type of eating will occur. It was expected that binging would be more common among women and that there would be individual differences in the types of situations under which it was likely to occur. Finally, it was expected that while many people would say they did not eat when upset, some non-bingers would report 'external' type overeating.

Method:

Subjects were 39 female and 41 male employees of the U.S. Army Natick Research and Development Command. They ranged in age from 21 to 55 and

in weight from thin (10% or more under average weight for their height and sex according to the norms established by the Metropolitan Tables) to obese (30% or more over average weight). Subjects were randomly selected from a large pool of volunteers.

Subjects were asked to participate in a structured interview on food habits. They were told 'Many people report they sometimes eat when they're not really hungry. Often this type of eating is associated with a particular mood or event. For example, some people say they eat when they're tired or upset or anxious about something and these are only a few reasons which are given. Other people say they eat when they're not really hungry because they're at a restaurant or because its a certain time of the day. We are interested in finding out more about non-hunger type eating and would appreciate your help. All information will be kept confidential.' Questions were designed to uncover both emotional and external type eating. The following questions were asked: 1. Do you ever eat when you're not hungry? If No, do you ever overeat?

2. If Yes, under what circumstances is this likely to happen?
3. Do you ever eat because of a particular mood?
4. Is this any different than other eating? If so, How?
5. Under what circumstances is this likely to occur?
6. How frequently?
7. What do you eat and how much?

Interviews took between ten and fifteen minutes.

Results:

An individual was defined as a 'Binger' if he or she reported eating because of a particular mood and said it happened at least twice/month. When describing this kind of eating, subjects later classified as

'Bingers' described their eating in terms similar to those found in the clinical literature. These included: 'eat compulsively' 'can't stop' 'eat rapidly, devouring everything in a short time'

Typical responses and characteristics of Bingers can be seen in the following charts:

It was expected that bingeing would be common and as defined by this criterion and responses to these questions, it was. Forty per cent of subjects reported bingeing at least twice/month. Since the standard error of proportions is 5.5% (Fleiss,1973) it can be concluded that the real proportion of bingeing falls between 30-50%. Of course, since the questions were quite leading, this may be an overestimate.

The results also indicate that there was a great deal of individual variability in reasons given for bingeing. These included: anxiety, tiredness, loneliness, being on a diet for a long time, feeling sorry for oneself and frustration. Only one or two reasons applied to a given subject.

The rate of bingeing was expected to be greater for females than males and it was. Fifty one per cent of women reported bingeing compared to 29% of the men. This difference was significant $p < .05$ (Fleiss,1973). There was an opposite difference for the rate of external eating. Forty one percent of men reported external eating compared to 11% of the women. As would be expected, there was no significant sex difference when both types of overeating were combined (difference =8.8%,s.e.=9.6%(Fleiss,1973).

Notably, in this sample, there was no relation between degree of overweight and either bingeing or external eating. Interestingly, both non-overweight and overweights reported eating when upset. However, in contrast to overweights, non-overweights typically reported compensating

for a binge by reducing subsequent intake. This is consistent with the findings of Herman and Polivy (1976) that dietary restraint as well as eating style affects body weight.

In conclusion, binging or emotional distress related eating is common and may occur for a variety of reasons. Theories emphasizing binging and external eating should not be conceptualized as rival theories. Instead, they describe two ways of overeating. In the absence of restraint both may lead to obesity. There is much more Experimental support for Externality theory. Partly this may stem from the fact that while bingers are alike in that they eat when upset, there are differences in what kinds of upsets start such eating.

More generally, results from this study support the idea that there are several subgroups of overweight and normal weight individuals and that obesity should not be treated as a unitary phenomenon.

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OVEREATING-(MALE RESPONDENTS)

AGE	P.L.	REASON	FREQ.	FOOD	COMMENTS
24	+3%	ALONE AT HOME-ALL WOUND UP-NOTHING TO DO-CAN'T GO ANYWHERE	3/MONTH	WHOLE PIZZA 3 BIG SANDWICHES	IF I STARTED TO GET FAT I GUESS IT WOULD BOTHER ME. I ALSO OVEREAT A LOT-I GUESS I MUST BE VERY ACTIVE
23	+30%	PROBLEMS WITH MY GIRLFRIEND, FIGHT WITH MY PARENTS,	1/WEEK	QUART ICE CREAM, BIG BAG CHIPS	ITS LIKE I'M TAKING IT OUT ON THE FOOD I GUESS IT MAKES ME FEEL BETTER OR I WOULD STOP DOING IT
37	+10%	NERVOUS, MAD AT MY WIFE	3/MONTH	CHIPS, FRITOS CRUNCHY	BAD HABIT-SHOULD TAKE UP JOGGING INSTEAD, BUT BETTER THAN DRINKING
39	+28%	FRUSTRATED WITH MY JOB	1/WEEK	COLD CUTS-HIGH PRO-TEIN STUFF	I ALSO EAT TOO MUCH AT MEALS-I USED TO BE REALLY SKINNY-CAN'T GET USED TO BEING FAT.
45	+25%	FATIGUE, JOB FRUSTRATION	2/WEEK	BUFFET-ANYWHERE I CAN EAT QUANTITY	EATING A LOT REALLY RELAXES ME-I GUESS ITS UNHEALTHY TO BE OVERWEIGHT BUT I LIKE EATING BETTER THAN DIETING.
61	+80%	ANXIETY, PROBLEMS WITH MY WIFE OR JOB	4/WEEK	LOTS OF SANDWICHES, CHIPS BUT PREFER QUALITY	I USED TO WORRY ABOUT BEING TOO FAT BUT I DON'T ANYMORE

OVEREATING-(FEMALE RESPONDENTS)

AGE	P.L.	REASON	FREQ.	FOOD	COMMENTS
28	-4%	BOREDOM, WORRY-I'M IN AND I DON'T WANT TO BE.	4/WEEK	ICE CREAM, COOKIES	WHEN I GET LIKE THIS I HAVE TO KEEP EATING UNTIL FOOD IS ALL GONE. I STARVE THE REST OF THE TIME TO MAKE UP FOR IT.
28	+15%	ANGRY, RESENTFUL-I'M LEFT ALONE WITH NOTHING TO DO.	1/WEEK	NOT JUNK-I'LL EAT A WHOLE EXTRA MEAL	I EAT UNTIL I'M SICK. I DON'T REALLY ENJOY IT. CALM'S ME DOWN. THEN I USUALLY GO TO SLEEP.
52	+40%	I DON'T REALLY KNOW. I'VE TRIED TO FIGURE IT OUT. DOWN IN THE DUMPS BUT HAPPENS OTHER TIMES ALSO.	IRREG- BUT WHEN ANYTHING IT STARTS THATS AROUND KEEP IT UP FOR DAYS	CANDY, OR	WHEN I START IT GETS OUT OF CONTROL- EAT TILL I'M TOO FULL TO MOVE
31	+2%	WHEN I'VE BEEN ON A DIET FOR A WHILE- BREAK IT AND THEN JUST KEEP GOING.	EVERY OTHER WEEKEND	ICE CREAM, DONUTS, SWEETS	I MANAGE TO AVOID GETTING FAT SO I DON'T LET IT BOTHER ME. BETTER THAN DRINKING.
52	+33%	USUALLY, FIGHT WITH KIDS-CAN BE OTHER THINGS.	1/WEEK	CHOCOLATE- AT LEAST ONE POUND	WHEN I FEEL LIKE THIS, ALL I WANT TO DO IS EAT. I FEEL TERRIBLE THEN CAUSE I REALLY DON'T WANT TO BE FAT.
22	+20%	I'M REALLY EXCITED ABOUT SOMETHING, A WAY TO CALM DOWN OPPOSITE OF MOST PEOPLE. I NEVER EAT WHEN I'M UPSET OR DEPRESSED	2/MONTH	SWEETS OR STARCH- PLATE OF NOODLES	THAT EATING DOESN'T BOTHER ME-BUT AT WORK THERE'S LOTS OF FOOD AROUND AND I NIBBLE CONSTANTLY

OVEREATING-(FEMALE RESPONDENTS)

AGE	P.I.	REASON	FREQ.	FOOD	COMMENTS
30	+15	IF I FAIL AT, SOME- THING OR DON'T DO AS WELL AS I THINK I SHOULD HAVE. ALSO ANYTHING THAT MAKES ME FEEL SORRY FOR MYSELF	1/WEEK	CANDY, CHOCOLATE ESPECIALLY	ONCE I START I EAT UNTIL I GET SICK. I DIET A LOT OF THE TIME BUT THIS IS THE REASON WHY I NEVER REALLY GET THIN. IT DOES MAKE ME FEEL BETTER WHILE I'M DOING IT. WHEN I'M HAPPY I HAVE NO PROBLEM WITH EATING
43	+60%	LONELINESS, MILD DEPRESSION	EVERY NIGHT	ANYTHING THAT'S THERE	I'M OK ALL DAY BUT WHEN I GET HOME AT NIGHT I START TO EAT AND USUALLY JUST KEEP EATING UNTIL I GO TO SLEEP
25	-8%	I DON'T REALLY KNOW WHAT TRIGGERS IT OFF	3/WEEK	USUALLY CANDY, IF NONE IS THERE I'LL GO BUY IT.	I DON'T KNOW WHAT STARTS ME OFF BUT I CAN EAT REALLY LARGE AMOUNTS OF CANDY SOMETIMES. PEOPLE DON'T BELIEVE IT AFTER A DAY LIKE THAT I'LL HATE MYSELF AND EAT NOTHING THE NEXT DAY. I GUESS ITS JUST MY PATTERN. I USED TO BE REALLY FAT.